Physical Theories"; Dr. V. P. Lubovich, assistant professor of physics, spoke on "Does the Inertia of a Body Depend upon its Energy Content?"; Dr. Walter B. Veazie, of the department of philosophy, discussed "Relativity and Philosophy," and Dr. Frank E. E. Germann, professor of chemistry, spoke on "Chemistry and Relativity."

During the program, a painting of Dr. Einstein by Miss Virginia True, of the art department, was unveiled. An informal hour followed in the banquet room, where fifteen posters hanging on the walls representing "practical" applications of Einstein's theory of relativity were studied. A letter of congratulation, signed by those at the dinner, was sent to Professor Einstein.

FRANK E. E. GERMANN

JOINT MEETING AT LOS ANGELES OF THE AMERICAN PHYSICAL SOCIETY AND OF THE ACOUSTICAL SOCIETY OF AMERICA

A JOINT meeting of the American Physical Society and the Acoustical Society of America will be held on the campus of the University of California at Los Angeles on December 12 and 13. Dr. Vern O. Knudsen, associate professor of physics, is in charge of arrangements for the meeting. More than two hundred delegates from various parts of America are expected to attend.

According to preliminary plans, there will be one joint session of the two organizations. At this session it is planned that six papers will be presented, including three papers by members of each association. In addition there will be a symposium on the recording and reproducing of sound in talking moving pictures, and also a symposium on atmosphere acoustics and sound signaling. An inspection tour of the talking-picture studios is also planned for the visitors.

Professor Leonard B. Loeb, of the University of California, Pacific Coast secretary of the American Physical Society, is in charge of the arrangements for his organization. Other officers of this society include Dr. Henry G. Gale, University of Chicago, *president;* Dr. W. F. G. Swann, Bartol Research Foundation, Philadelphia, *vice-president;* Dr. W. L. Severinghaus, Columbia University, *secretary;* Dr. G. B. Pegram, Columbia University, *treasurer,* and Dr. John A. Tate, of the University of Minnesota.

Officers of the Acoustical Society of America include Dr. Harvey Fletcher, of the Bell Telephone Laboratory of New York, *president;* Dr. Vern O. Knudsen, of the University of California at Los Angeles, *vice-president;* Wallace Waterfall, of Chicago, *secretary,* and Dr. E. E. Free, of New York, *treasurer.*

SCIENTIFIC NOTES AND NEWS

THE awards of royal and other medals by the Royal Society, London, have been announced as follows: A Royal Medal to Professor O. W. Richardson, F.R.S., for his work on thermionics and spectroscopy. A Royal Medal to Professor J. E. Marr, F.R.S., for his pioneer work in the accurate zoning of the Paleozoic rocks. The Copley Medal to Sir William Bragg, K.B.E., F.R.S., for his contributions to crystallography and radioactivity. The Rumford Medal to Professor Peter Debye, of Leipzig, for his work relating to specific heats and X-ray spectroscopy. The Davy Medal to Professor R. Robinson, F.R.S., for his work on the constitution and synthesis of natural products, and for his contributions to the theory of original reactions. The Darwin Medal to Professor Johannes Schmidt, of Copenhagen, for his extended oceanographical expeditions and his genetic studies on animals and plants. The Hughes Medal to Sir C. V. Raman, F.R.S., of Calcutta, for his work on the abnormal scattering of light. The following is a list of those recommended by the president and council for election at the anniversary meeting on December 1: Sir F. Gowland Hopkins, *president;* Sir Henry Lyons, *treasurer;* Dr. H. H. Dale and Dr. F. E. Smith, *secretaries;* Lord Rayleigh, *foreign secretary.* Other members of the council: Professor E. V. Appleton, Professor G. Barger, Professor A. E. Boycott, Professor E. P. Cathcart, Sir Alfred Ewing, Professor E. S. Goodrich, Professor G. H. Hardy, Sir Harold Hartley, Sir Thomas Lewis, Dr. W. H. Mills, Professor E. A. Milne, Dr. A. B. Rendle, Professor R. V. Southwell, Professor G. I. Taylor, Professor D. M. S. Watson and Professor W. W. Watts.

ON November 18 a tribute from Germany was brought to Mr. Thomas A. Edison by Dr. Heinrich Jebens, president of the German Association of Inventors, who came to Mr. Edison's laboratory at Menlo Park. The certificate reads: "To the great master of technical development, the benefactor of humanity and the outstanding example for the inventors of the entire world, Mr. Thomas Alva Edison, we herewith tender an honorary membership in the German Association of Inventors."

DR. ALAN GREGG has been appointed director for the medical sciences of the Rockefeller Foundation. He will occupy the position vacated by the death on February 16 of Dr. Richard M. Pearce, Jr., in whose

work he had for many years closely participated as associate director for the medical sciences. Dr. Gregg first took up his work with the Rockefeller Foundation as a field staff member of the International Health Board in 1919. For three years he was actively engaged in public health work in Brazil. In 1922 he became associate director of the division of medical education. After making extensive studies of medical education in a number of countries, which included Colombia, Mexico and Italy, he was stationed at the Paris Office of the Rockefeller Foundation, from which since 1925 he has been directing Rockefeller Foundation work in the medical sciences in Europe.

PROFESSOR JULIAN HUXLEY, of King's College, London, spoke at the centenary celebration of the Boston Society of Natural History on November 18. Other speakers were Dr. William Morton Wheeler, a trustee; Dr. Edward Wigglesworth, the director, and Dr. Thomas Barbour, director of the University Museum at Harvard, a former president.

ON the occasion of the seventy-fifth anniversary of the Zurich Polytechnic Institute, honorary doctorates were conferred on Professor Albert Einstein, of the University of Berlin, who was formerly a student and a teacher at the school, and on Professor A. E. H. Love, of the University of Oxford, in recognition of his work on natural philosophy.

DR. JAMES BARNES, professor of physics of Bryn Mawr College, has been appointed head physicist at the Benjamin Franklin Memorial and Franklin Institute Museum, now being erected at Philadelphia. Dr. Barnes will assume his new work at the conclusion of the college year.

DR. L. T. COMRIE, a graduate of New Zealand and Cambridge Universities, has been promoted to the post of superintendent of the Nautical Almanac Office, Greenwich, England.

DR. JAMES CRAWFORD WATT, formerly associate professor of anatomy in the University of Toronto, has been promoted by the board of governors of that institution and given the full rank of professor of anatomy.

DR. B. L. VAN DER WAERDEN, professor of mathematics at Groningen, has been called to the university at Leipzig.

BYRON H. THOMAS, at present director of nutritional research for the Gordon Walker Company, has been appointed professor of animal husbandry at Iowa State College as well as chief in animal chemistry and nutrition at the experiment station at Ames.

DR. MAXWELL KARSHAN has been appointed associate professor of biologic chemistry at Columbia University.

PROFESSOR C. H. HOTCHKISS, in charge of the heating and ventilating work in the School of Mechanical Engineering at Purdue University for the last five years, has tendered his resignation effective on November 15, to become editor of the *Heating and Ventilating Magazine,* the principal journal of the heating and ventilating industry. Professor Hotchkiss will be succeeded by Professor W. T. Miller, who has been connected with Purdue University for several years, after experience in industry since his graduation in 1915.

MR. R. V. WRIGHT, of New York, managing editor of *Railway Age,* has been elected president for 1931 of the American Society of Mechanical Engineers. Mr. Wright succeeds Mr. Charles Piez, of Chicago, and will be installed at the annual meeting which will be held from December 1 to 5. Vice-presidents elected on the same ballot were Dr. Harvey N. Davis, president of Stevens Institute of Technology, Mr. William A. Hanley, engineering director of Eli Lilly and Company, Indianapolis, chemists, and Thomas R. Weymouth, president of the Oklahoma Natural Gas Corporation of Tulsa.

DR. LEONHARD STEJNEGER, of the U. S. National Museum, returned to Washington on November 4 after a three months' European trip during which he attended the International Zoological Congress at Padua, Italy.

DR. G. ELLIOT SMITH, University College, London, will deliver the third Harvey Society Lecture at the New York Academy of Medicine, on Thursday evening, December 4. His subject will be "The Peking Man."

DR. WILLIAM JOHN GIES, professor of biological chemistry in the College of Physicians and Surgeons, Columbia University, will give the Founders' Day address at the Medical College of Virginia at Richmond on December 1.

THE annual Gross lecture was delivered by Dr. William H. Woglom, of the Institute of Cancer Research, Columbia University, before the Pathological Society of Philadelphia on November 13 on "Experimental Cancer."

PROFESSOR ALEXANDER SILVERMAN, head of the department of chemistry of the University of Pittsburgh, delivered an illustrated lecture on glass before the Scientific Society of New Brunswick, N. J., on November 12.

DR. HARLAN T. STETSON, director of the Perkins Observatory, Ohio Wesleyan University, lectured during the month of November on "Sun Spots and Radio," before the American Optical Society of Rochester, the Pittsfield, Massachusetts, section of the American Institute of Electrical Engineers, and at Cornell University. He also lectured before the Brooklyn Institute of Arts and Sciences on "What are the Stars?"

DR. T. A. RUSSELL, president of Willys-Overland Limited, delivered his presidential address before the Royal Canadian Institute on "The Motor Car in World Affairs" on November 1.

SIR J. H. JEANS, of Trinity College, Cambridge, delivered the Rede Lecture on November 4, his subject being "The Mysterious Universe."

THE second Henry Herbert Wills Memorial Lecture in physics was delivered in the H. H. Wills Physical Laboratory, Bristol, on October 25, by Professor J. Franck, of Göttingen. The title of the lecture was "The Relation between Spectroscopy and Chemistry."

DR. G. FRANCHINI, director of the School of Tropical Medicine, University of Bologna, Italy, recently addressed the Association of Italian Physicians in America on the work of Alphonse Laveran.

DR. LUDWIG ASCHOFF, professor of pathology in the University of Freiburg, has been invited to give a series of lectures in the principal cities of Soviet Russia.

THE annual meeting of the Federation of American Societies for Experimental Biology will be held at McGill University, Montreal, from April 8 to 11, 1931.

THE second annual meeting of the Society of Rheology will be held at Lafayette College, Easton, Pennsylvania, on Monday and Tuesday, December 29 and 30. Programs, reservations and notices in regard to the meeting may be obtained from Professor Eugene C. Bingham, chairman of the Committee on Arrangements, Lafayette College.

THE first meeting of the Central States Forestry Congress called under the auspices of the state of Indiana will be held in Indianapolis on December 3, 4 and 5. This is the first concerted attempt of this group of states to organize a general forestry congress for the promotion of forestry activities in the region.

THE development of a nationwide program of research in cooperation with American universities as a next step in the extension of the activities of the National Committee for Mental Hygiene was announced as a major objective for the near future at a luncheon held on November 13 in New York City, in celebration of the committee's twenty-first anniversary. The effort will be made under the leadership of Dr. C. M. Hincks, medical director of the Canadian National Committee for Mental Hygiene and a vice-president of the International Committee for Mental Hygiene, who was introduced as the new general director of the organization, succeeding Dr. Frankwood E. Williams, who will retire on January 1 after serving fourteen years. At the business meeting immediately following the luncheon the following officers were re-elected: *Honorary President,* Dr. William H. Welch; *President,* Dr. Charles P. Emerson; *Vice-presidents,* President James R. Angell, The Right Reverend William Lawrence, D.D., Dr. William L. Russell and Dr. Bernard Sachs; *Treasurer,* Mr. Frederick W. Allen; *Secretary,* Mr. Clifford W. Beers.

AT the Imperial Botanical Conference held on August 15 the following resolution was passed: "That an Imperial Botanical Conference take place in England in 1935, shortly before the International Botanical Congress which is to be held in that year in Holland." The following interim committee was appointed: The Director of Kew (convener); the Keeper of Botany, Natural History Museum; the professors of botany at Oxford and Cambridge; a professor of botany of the University of London (to be nominated by the chairman of the Board of Studies of the University); one representative of the Colonial Office, and one representative of the Dominion Office. It was further resolved that this committee summon a meeting of British botanists in the near future for the purpose of appointing an executive committee for the said conference.

Nature reports that a Scientific Advisory Committee on Medical Administration and Investigation has been appointed by the Secretary of State for Scotland "to assist the Department of Health for Scotland in applying the results of scientific research to the details of public health administration and in promoting such medical investigations as come within the sphere of the department or of the local authorities in Scotland." The members of the committee are: Dr. Alexander Bowman, scientific superintendent, Marine Laboratory of the Fishery Board for Scotland; Professor C. H. Browning, professor of bacteriology, University of Glasgow; Professor E. P. Cathcart, professor of physiology, University of Glasgow; Professor F. A. E. Crew, professor of animal genetics, University of Edinburgh, and director of the Animal Breeding Research Department; Sir Walter M. Fletcher, secretary to the Medical Research Council; Sir Robert Greig, secretary, Department of Agriculture for Scotland; Mr. John Jeffrey, secretary, Department of Health for

Scotland; Dr. J. Parlane Kinloch, chief medical officer, Department of Health for Scotland; Dr. A. S. M. Macgregor, medical officer of health, Glasgow; Professor T. J. Mackie, professor of bacteriology, University of Edinburgh; Professor J. J. R. Macleod, professor of physiology, University of Aberdeen; Professor Robert Muir, professor of pathology, University of Glasgow; Dr. J. B. Orr, director of the Rowett Institute for Research in Animal Nutrition, Aberdeen, and Professor W. J. Tulloch, professor of bacteriology, University of St. Andrews. Dr. Parlane Kinloch is chairman, and Mr. George Wallace, of the Department of Health for Scotland, is secretary of the committee.

A MILLION acres covered by heavy forest at the headwaters of Salmon River have been set aside as a "primitive area" by order of R. H. Rutledge, district forester. As such the tract will be kept as it was found by the pioneers, unmarred by roads or trails except as necessary for fire protection. It includes the Chamberlain Basin, the center of some of the best big game hunting in America. In it abound deer, elks, mountain sheep and goats and an occasional moose is found, while animals of prey, such as mountain lions, wolves and bears are frequently encountered.

Nature reports that a selection of the zoological and botanical specimens collected during Lord Howard de Walden's recent expedition to Uganda and the eastern Belgian Congo was exhibited at the meeting of the Trustees of the British Museum held at the Natural History Museum on July 26. The collection, which is the gift of Lord Howard de Walden to the National Collection, is one of the most important accessions received by the museum of recent years. The expedition left Fort Portal for the Semliki Valley on Feb. 17 last. Collecting was carried out within twenty miles of Lake Albert, and afterwards in a south-westerly direction to the Semliki Valley, crossing over into the Congo on Mar. 7. The route then led up the western escarpment of the Semliki Valley to Mboga and then west into the Ituri Forest. On Mar. 29 the expedition divided, one party proceeding south to Beni, the other going west to the Ituri River. Both parties came out of the Congo *via* Irumu and crossed Lake Albert into Uganda on the homeward journey during May. Lord Howard de Walden, in addition to spending some time with the expedition in the forest area, made a special trip to the Birunga Mountains lying to the northeast of Lake Kivu, with the object of photographing the eastern gorilla (*Gorilla gorilla beringeri*) and its habitat. The personnel of the expedition to the Ituri and Semliki Valleys, in addition to Lord Howard de Walden and Dr. Avery, consisted of Mr. R. Akroyd, who as well as organizing the expedition did valuable work as a collector of the larger mammals; Capt. F. A. B. Holloway, who concentrated chiefly on invertebrates, making a large collection of butterflies and other insects, and Mr. R. W. Hayman, a member of the museum staff, who specialized on the medium-sized and small mammalia. Two white hunters accompanied the expedition as guides and supervisors of the "safari." The mammals collected number 427 specimens, including 67 monkeys, 110 bats, 71 carnivores, 23 ungulates and 147 rodents. The reptiles and amphibians collected number 65 specimens, representing 31 species in all.

THE Berlin correspondent of the *Journal* of the American Medical Association writes: "The unsatisfactory demographic situation in Germany gave rise, in January, 1930, to the appointment of a federal commission on demographic problems. The chairman, Professor Gottstein, ministerial director, retired, has given his first report on the work accomplished. The commission is divided into three groups, each of which is directed by an expert. Group 1 is studying the problem of the birth rate under the direction of Professor A. Grotjahn, of Berlin, who has declared that relief from taxation is not in itself a sufficient means of solving demographic problems. He considers preferential economic treatment of the parents a more suitable method. By voluntary limitation of the number of children in families the number of living births in recent decades has dropped from 40 to 18 per thousand. Berlin, which has the lowest record, registered only 10 living births per thousand of population. Deaths in Berlin in 1929 exceeded the births by 10,000. The commonly assigned reasons for the voluntary limitation of the number of children in Germany (unemployment and the housing situation) are by no means convincing. The decline in the birth rate during the war period will, in a few years, lead to a dearth of man power in Germany. The fact is that during the years 1933–1937 there will be approximately two million fewer competent workers. This brings the senescence of the German people near. The second group of the commission under the chairmanship of Professor H. Sellheim, gynecologist of Leipzig, will seek to improve the protection of expectant mothers and of children as yet unborn. Group 3, under the chairmanship of Professor Rott, of Berlin, will study such problems connected with the preservation of the oncoming generation as infant welfare and the elimination of the preventable diseases. With regard to the tax reforms, the following demands are made: preferential treatment of families and children in the graduation of taxes on salaries, incomes, property and legacies, together with the es-

tablishment of a uniform exemption from taxation of at least 600 marks for each member of a family, with elimination of the present maximal sum for the whole family."

DISCUSSION

"MAD ITCH" OF CATTLE

THE observations made in this note are based on an outbreak of "mad itch" in a herd of dairy cattle in Johnson County, Iowa, in 1930. The disease is a rapidly fatal one, the interval in this outbreak between the appearance of pruritus or "itch" and death ranged from 36 to 48 hours.

The source of our experimental material was the brain tissue, preserved in glycerol, of three cows. The specimens from two cows produced no effect when injected subcutaneously into rabbits. The remaining specimen was effective, and on injection produced conditions resembling "mad itch" in cattle and death in a total period of 100 hours or less. The symptoms of pruritus appeared in from 70 to 80 hours after the inoculation and death followed 12 to 24 hours later.

Not only rabbits, but guinea pigs, white rats and mice are susceptible to inoculation. A difference has been noted in the susceptibility of the rabbit and the other animals. Subcutaneous injection is regularly effective in the rabbit, and intracerebral injection in the other species. Inoculations by other routes are irregularly effective in guinea pigs, rats and mice.

We have been interested in the experimental production of "mad itch" in small laboratory animals because through them an exhaustive study will be facilitated, and the nature of the etiologic or causative agent of the disease may be determined.

It is obvious that the agent is resistant to glycerolation. This is equally true of the infected rabbit and cow brain. No ordinary bacterial organism has by methods of culture and direct microscopic examination been discovered. On the other hand, suspensions of emulsified brain of rabbits, when passed through Berkefeld filters V, N and W, and Chamberland filter L^3, are all effective in inducing the experimental disease in rabbits.

The indications, therefore, are that "mad itch" in cattle is a disease communicable to laboratory rodents and its incitant is a filterpassing virus.

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THE SORTING POWER OF WIND AND WAVE

THE sorting power of streams of water—the power to sift out light or fine material from coarse or heavy material, such as dust, sand, gravel, etc.—has long been known and much studied. The sorting power of winds and waves is also a matter of common knowledge, but perhaps the effectiveness with which this process is carried on under favorable circumstances is not quite so generally known. The thoroughness of the sifting depends upon several factors, including especially differences in the size, shape and specific gravity of the particles, and, to a lesser degree, the slope of the surface and velocity of the wind or waves.

During the past summer we found on the shores of Bear Lake, Idaho-Wyoming, immense numbers of mollusk shells, chiefly *Carinifex,* with some *Lymnaea utahensis, Paludestrina, Valvata, Fluminicola* and other genera. On some portions of the shore the shells had been gathered by the waves into low windrows, or, to coin a more expressive term for the particular phenomena, waverows, from one to three or four inches deep and two to five times as wide. On a fine, sandy beach at the north end of the lake we scooped four quarts of shells by double handfuls from the top of the windrows and sacked them. In the laboratory we found that the shells had been so thoroughly sifted from the surrounding sand, by the waves, that there was only about a teaspoonful of sand left after separating out all the shells. On a similar beach on the west side we scooped up two quarts of shells out of which only three tablespoonfuls of sand were obtained. South of Garden City, on gravel, our collections contained coarse pebbles, in size roughly comparable to the shells, up to about 3 per cent. On the east side of the lake not far from the southern end, on a beach composed chiefly of well-rounded gravel of about the same average size as the shells but of course much heavier in proportion to bulk, we scooped up three pints from the windrows, which yielded 20 per cent. gravel, in bulk, much more in weight.

Near Thermal, California, a little hollow in the sand was filled with *Paludestrina protea, P. longinqua* and *Physa,* from which the fine sand had been so completely eliminated by the wind that in a lot of about 12,000 specimens scooped up by the hands there was scarcely a trace of sand. Near Brownwood, Texas, we found a ledge of limestone composed largely of foraminifera (*Fusulina*), which were weathering out rapidly. These were gathered by the wind into little depressions in the rock, the finer débris resulting from